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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,638	11/26/2003	Martin Stumpert	P17773-USI	7324
27045	7590	11/28/2007	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			AHMED, SALMAN	
			ART UNIT	PAPER NUMBER
			2619	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/722,638	<b>Applicant(s)</b> STUMPERT, MARTIN	
	<b>Examiner</b> Salman Ahmed	<b>Art Unit</b> 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11/26/2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/26/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Claims 1-10 and 13-21 are pending.

Claims 1-10 and 13-21 are rejected.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 14 recites the limitation "The switching node" in line 1. There is insufficient antecedent basis for this limitation in the claim.
3. Claim 19 recites the limitation "The switching node" in line 1. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 20 recites the limitation "The switching node" in line 1. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 21 recites the limitation "The switching node" in line 1. There is insufficient antecedent basis for this limitation in the claim.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-7, 9, 10 and 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin (US PAT PUB 2002/0196770).

In regards to claim 1, Lin anticipates a method of routing a connectivity plane message to a mobile terminal (Figure 5, Roaming mobile 531) which can be reached via two or more network nodes (Figure 5, CSIWF 505 or 515) of a first type, comprising the steps of: receiving positional information indicating the geographical location of the mobile terminal and routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (after receiving location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)), the routing information being associated with a network node (Figure 5 MSC 545) of a second type to which the mobile terminal is attached (section 0026, the roaming mobile 531 is currently located in a service area under a VLR 543 and serving MSC 545); based on the positional information, determining the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal; and routing the connectivity plane message to the mobile terminal via the determined network node of the first type (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and determines which terminating CSIWF 515 to use from the TLDN i.e. determining the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal. The NFS 519 then forwards a set-up message to the terminating CSIWF 515, which in turn, sets up a bearer channel through the packet transport network 523 i.e. routing the

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connectivity plane message to the mobile terminal via the determined network node of the first type).

In regards to claim 10, Lin anticipates a method of controlling the routing of a connectivity plane message to a mobile terminal (Figure 5, Roaming mobile 531) which can be reached via two or more network nodes (Figure 5, CSIWF 505 or 515) of a first type and which is attached to a network node (Figure 5 MSC 545) of a second type, comprising the steps of: receiving a request for routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545); generating positional information indicating the geographical location of the mobile terminal and routing information associated with the network node of the second type to which the mobile terminal is attached (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (MSC calculating TLDN which is associated with routing and geographical location, transmits the location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)); and transmitting the routing information and the positional information to enable a receiving network component (Figure 5, NFS 519) to determine based on the received positional information the network node of the first type via which the connectivity plane message is to be routed (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (after receiving location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)).

In regards to claim 15, Lin anticipates a network component (Figure 5 MSC 545) for controlling the routing of a connectivity plane message to a mobile terminal (Figure 5, Roaming mobile 531) which can be reached via two or more network nodes (Figure 5, CSIWF 505 or 515) and which is attached to the network component (Figure 5 MSC 545), comprising: a first interface (Figure 5, interface in MSC 545 connecting MSC 545 to STP 541) for receiving a request for routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545); a processing component (inherent) for generating positional information indicating the geographical location of the mobile terminal and routing information associated with the network component to which the mobile terminal is attached (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (MSC calculating TLDN which is associated with routing and geographical location, transmits the location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)); and a second interface (Figure 5, interface in MSC 545 connecting MSC 545 to TIWF 517) for transmitting the routing information and the positional information to enable a receiving network switch (Figure 5, STP 541) to determine the network node (Figure 5, terminating CSIWF 515) via which the connectivity plane message is to be routed to the mobile terminal (section 0026, the NFS 519 then forwards a set-up message to the terminating CSIWF 515, which in turn, sets up a bearer channel through the packet transport network 523 and, at the same time, regenerates an IAM message to the serving MSC 545 via STP 541).

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In regards to claim 2, Lin anticipates the positional information indicates the geographical location of the mobile terminal within an area served by the network node of the second type (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and determines which terminating CSIWF 515 to use from the TLDN (geographical location), i.e. the serving CSIWF 515 tied to TLDN is associated with a particular geographical area it serves).

In regards to claim 3, Lin anticipates a network control plane message is routed via the determined network node of the first type (Figure 5, CSIWF 505 or 515) to the network node (MSC 545) of the second type (section 0026, when a PSTN 525 user within the first service area 503 calls a wireless mobile 531 that has roamed to the third service area 513, the call is routed to the VTS 501 via STP 539. Internal to the VTS 501, the originating CSIWF 505 interworks with the STP 539 like regular tandem switch and routes the set-up message to the NFS 519. The NFS 519 initiates an IS-41 location query request to serving MSC 545).

In regards to claim 4, Lin anticipates routing of the connectivity plane message is performed in a communications network that includes a first network portion (Figure 5, service area 513) having split architecture and a second network portion (Figure 5, PSTN 525) having a monolithic architecture.

In regards to claim 5, Lin anticipates the selected network node (CSIWF 515) of the first type is arranged between the first network portion (Figure 5, service area 513) and the second network portion (Figure 5, PSTN 525).

In regards to claim 6, Lin anticipates the network node of the first type (CSIWF 515) is selected such that resources utilized by the routed connectivity plane message in the first network portion (Figure 5, service area 513) are minimized (section 0030, The present invention provides for call set-up with minimum and localized resources as compared to previous methods).

In regards to claim 7, Lin anticipates the positional information is included in the routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (MSC calculating TLDN which is associated with routing and geographical location, transmits the location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)).

In regards to claim 9, Lin anticipates the step of determining, based on the positional information, or receiving transmission information specifying the transmission regime via which the connectivity plane message is to be routed to the determined network node of the first type (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (MSC calculating TLDN which is associated with routing and geographical location, transmits the location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)).

In regards to claim 16, Lin anticipates network node of second type comprises a mobile switching center (MSC) node (Figure 5 MSC 545).

In regards to claim 17, Lin anticipates network node of first type comprises a media gateway (MGW) node connecting two network portions (section 0024, The



CSIWF 505 or 515 provides a signaling interface for signaling standards, such as ISUP (ISDN user part) or TCAP (transaction capability protocol), over a network, such as an SS7 network available from Lucent Technologies, as well as a broadband signaling interface to the packet-based transport network. The CSIWF 505 or 515 manages connections in the network and performs narrowband/broadband signaling interworking functions, i.e. it is a media gateway (MGW)).

In regards to claim 18, Lin anticipates network node of second type is a switching node with a fixed associated between a particular geographical service area (Figure 5 PSTN narrowband 525) and network node (Figure 5, CSIWF 505 or 515) of second type (section 0024, The CSIWF 505 or 515 manages connections in the network and performs narrowband/broadband signaling interworking functions).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 13, 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of Bushnell (US PAT PUB 2004/0196966).

In regards to claim 13, Lin teaches a network component (Figure 5, NFS 519) for routing a connectivity plane message to a mobile terminal (Figure 5, Roaming mobile 531) which can be reached via two or more network nodes (Figure 5, CSIWF 505 or

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515) of a first type, comprising: receiving positional information indicating the geographical location of the mobile terminal and routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (after receiving location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)), the routing information being associated with a network node (Figure 5 MSC 545) of a second type to which the mobile terminal is attached (section 0026, the roaming mobile 531 is currently located in a service area under a VLR 543 and serving MSC 545); a determination component (inherent) determining based on the positional information the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal; and routing the connectivity plane message to the mobile terminal via the determined network node of the first type (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and determines which terminating CSIWF 515 to use from the TLDN i.e. determining the network node of the first type via which the connectivity plane message is to be routed to the mobile terminal. The NFS 519 then forwards a set-up message to the terminating CSIWF 515, which in turn, sets up a bearer channel through the packet transport network 523 i.e. routing the connectivity plane message to the mobile terminal via the determined network node of the first type).

Lin teaches the NFS 519 provides call feature functionality, such as address translation, routing, TCAP queries, billing and so forth (section 0020). The NFS 519 knows where calls need to be routed and handles the protocols and directs conversions

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necessary to provide that routing (section 0022). However, Lin does not explicitly teach NFS has different interfaces to communicate with different types of network.

Bushnell in the same field of endeavor teaches an originating Gatekeeper/Feature Server/Gateway system (GFSG) 218 and a terminating Gatekeeper/Feature Server/Gateway system (GFSG) 222. Originating GFSG 218 and terminating GFSG 222 may provide functions in packet networks similar to the functions of switching systems in circuit networks, including call authorization, call set-up, call teardown, call feature implementation, operations and maintenance, and interfaces to core networks, access networks, transmission networks and other networks. The "gateway" function refers to the conversion of elements of a telecommunications service from a first media, encoding type, signaling, or switching and transport technology (e.g., circuit, cell, or packet), to another.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lin's system/method by incorporating the teaching of Function Server having different interfaces to communicate with different networks as suggested by Bushnell. The motivation is that, by having discrete interfaces to communicate with different networks, keeps interface configuration and maintenance simple as well as makes the system reliable, as fault in one interface does not affect the functionality other working interfaces.

In regards to claim 14, Lin teaches the switching node (Figure 5, NFS 519) comprising a component (inherent) for extracting the positional information from the routing information (section 0026, the NFS 519 initiates an IS-41 location query request

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to serving MSC 545 and determines (extracting the positional information) which terminating CSIWF 515 to use from the TLDN).

In regards to claim 21, Lin teaches network node of second type is a switching node with a fixed associated between a particular geographical service area (Figure 5 PSTN narrowband 525) and network node (Figure 5, CSIWF 505 or 515) of second type (section 0024, The CSIWF 505 or 515 manages connections in the network and performs narrowband/broadband signaling interworking functions).

5. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as applied to claim 1 above and further in view of in view of Brudos et al. (US PAT 6505050, hereinafter Brudos).

In regards to claim 8, Lin teaches the positional information is included in the routing information (section 0026, the NFS 519 initiates an IS-41 location query request to serving MSC 545 and (MSC calculating TLDN which is associated with routing and geographical location, transmits the location response) determines which terminating CSIWF 515 to use (routing information) from the TLDN (geographical location)).

Lin does not explicitly teach positional information (TLDN) being received separately from the routing information.

Brudos in the same field of endeavor teaches positional information (TLDN) being received separately from the routing information (column 1 lines 58-60, Serving MSC 105 responds to HLR 104 with route request return result message 115, which contains an MSCID field (routing information) and TLDN field).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lin's system/method by incorporating the teaching of positional information (TLDN) being received separately from the routing information as suggested by Brudos. The motivation is that (as suggested by Brudos, columns 1-2 lines 60-3) for successful, efficient and reliable call set-up MSCID and TLDN are both separately required where MSCID field identifies serving MSC and is represented as a 24-bit digital number (with 16 bits representing the system identification and 8 bits representing the switch number) in accordance with ANSI-41, while TLDN field is a temporary local directory number that is subsequently utilized in the call scenario for delivering the incoming call to serving MSC.

6. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as applied to claim 13 above and further in view of Smith (US PAT PUB 2002/0042277).

In regards to claims 19 and 20, Lin teaches MSC and MGW as described in the rejection of claim 13 above.

Lin does not explicitly teach MSC and MGW are co-located.

Smith in the same field of endeavor teaches in some networks, the MSC may be divided into an MSC server for handling control signaling, and a Media Gateway (MGW) for handling media payload (section 0041).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Lin's system/method by incorporating the teaching of co-

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located MSC and MGW as suggested by Smith. The motivation is that co-located network components help easier accessibility and maintenance of those components saving travel time and cost; thus economically benefiting the network providers.

**Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571) 272-8307. The examiner can normally be reached on 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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